Nanocarrier Delivery of siRNA for Glioma Therapy

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Up to date, one of the key features of nanotechnology is its wide range of applicability across multiple biological scenarios ranging from gene therapy to immune system modulation due to the unique physical- chemical properties. Especially, nanocarriers such as nanoparticles, micelles, liposomes and so on, have been attracted much attention for drug and gene delivery. NC's have a large surface area compared to their small volume, the surface atoms behavior dominates their chemistry and physics. Due to their high surface energy, NCs are able to bind, absorb, and carry other compounds such as drugs, proteins, or chemicals. Despite the advantages of using NC's in biomedical research, one of the main obstacles for application remains the nanostructures fabrication; which generally involves a complicated process, low reproducibility, and high-cost for chemical modification.